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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,487	11/09/2001	Tatsuo Fujisaki	839.450	5285

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EXAMINER

MUTSCHLER, BRIAN L

ART UNIT	PAPER NUMBER
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1753

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DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/986,487

Applicant(s)

FUJISAKI ET AL.

Examiner

Brian L. Mutschler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because it uses legal phraseology including "means" (lines 5, 6, 8, 9 and 10) and "said" (lines 4, 5, 8, 9 and 10).

Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities:

The disclosure contains numerous grammatical errors such as the use of the phrase "as lowers as possible", which first appears on page 2 at lines 11-12. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 4 recites the limitation “wherein the memory and operation means...memorizes a standard temperature...for every time point” in lines 2-4. The disclosure does not adequately describe the device in such a way as to enable one to fabricate a solar power generation system capable of memorizing a standard temperature for every time point. From the disclosure, it appears that an average temperature, taken over a period of time such as a month, is stored in the memory of the memory and operation means, and the cooling means is operated based on a comparison between that average, or standard, temperature. In the claim, the memory and operation means is constantly memorizing a standard temperature for every time point, which means the temperature is constantly being recorded and the cooling means is operated based on the standard temperature memorized at that time. In other words, the memory and operation means operates as a temperature sensor, which is not supported by the disclosure in such a way as to enable one skilled in the art to make the claimed invention.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (U.S. Pat. No. 6,080,927) in view of Mimura et al. (U.S. Pat. No. 6,147,295) or in view of Guha et al. (U.S. Pat. No. 4,555,586).

Johnson discloses a solar power generation system having solar cells mounted on solar cell panels (**1401, 1402, 1403**) and is provided with an inlet pipe **1404** and an outlet pipe **1405** for a cooling/heat removal fluid (col. 11, lines 1-3). The power generating system is mounted on heliostats (**1001, 1002**) that track the movement of the sun (col. 11, lines 41-44). The system is controlled by a microprocessor, which controls the tracking and regulatory processes of the system including the sun tracking of the heliostats, the flow monitoring of the heat removal fluid and the solar cell surface temperature, which acts as a primary control of the flow rate (col. 12, line 44 to col. 13, line 32).

Regarding claim 4, the system disclosed by Johnson controls the flow of the fluid by the flow monitoring means and the solar cell surface temperature monitor, which controls the fluid flow rate based on the temperature of the solar cells (col. 12, lines 58-67). Controlling the flow rate based on the temperature of the solar cells is the same as

controlling the flow rate based on the standard temperature memorized at that instant time. The microprocessor inherently requires a clocking function to operate.

Regarding claims 5 and 6, Johnson provides a microprocessor that supervises the disposal of surplus energy by charging batteries or converting the energy into a.c. power (col. 13, lines 17-32). In order to perform the functions, the microprocessor must be able to detect and monitor the output of the solar cells.

The solar power generating system disclosed by Johnson differs from the instant invention because the instant invention requires the cooling means to be driven by an output, either current or power, of the solar cells. Johnson discloses controlling the cooling means by monitoring the flow of the cooling fluid and by measuring the temperature of the solar cells.

The temperature of the solar cell is proportional to the amount of radiation incident on the solar cell, which governs the amount of energy generated by the solar cell.

Guha et al. disclose a photovoltaic device having a temperature control element **60** attached to the solar cell **10** (col. 17, lines 59-66). The temperature control device **60** is controlled by a controller **64** that controls the device by detecting either the electrical output from the cell **10**, or the illumination incident on the cell (col. 17, line 66 to col. 18, line 5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the controller of Johnson to use a controller as taught by Guha et al., which detects either the generated output of the cell or the

incident radiation, because the controllers are equivalent since the temperature of the cell is proportional to both the radiation incident on the cell and the output generated by the cell.

Mimura et al. disclose a solar energy conversion device where "the amount of solar radiation is sensed according to the amount of generated electricity or voltage of the photoelectric transducer provided in the heat collector panel" (col. 7, lines 30-38).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the controller of Johnson to sense the amount of electricity or voltage generated by the solar cell, as taught by Mimura et al., because the detection of the electricity generated or the voltage is equivalent to the detection of the temperature of the solar cells, which is proportional to the amount of radiation on the cells and the amount of electricity generated.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. No. 6,372,978 issued to Cifaldi discloses a solar energy collection system comprising a heat removal apparatus controlled by a computer.

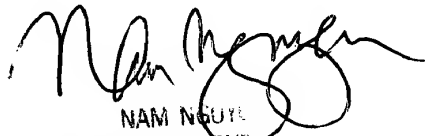
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Mutschler whose telephone number is (703)

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305-0180. The examiner can normally be reached on Monday-Friday from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (703) 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
NAM NGUYEN  
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blm  
August 22, 2002